

Claims

1. A method for the selection of one or more desired polypeptides comprising:
  - (a) cell free expression of nucleic acid molecules immobilized on a solid support system to produce polypeptides, the solid support carrying means for biospecific interaction with at least the desired polypeptide or a molecule attached thereto;
  - (b) separation of the solid support carrying both the desired polypeptide and the nucleic acid encoding it; and optionally
  - (c) recovery of the said nucleic acid and/or said desired polypeptide.
2. A method as claimed in claim 1 wherein the expressed polypeptides are fusion proteins.
3. A method as claimed in claim 2 wherein each fusion protein comprise a variable portion and a common portion.
4. A method as claimed in claim 3 wherein the common portion comprises an affinity fusion partner whose cognate binding partner is immobilised on the solid support.
5. A method as claimed in claim 3 wherein the common portion comprises a reporter protein moiety.
6. A method as claimed in any one of claims 3 to 5 wherein the variable portion is a member of a polypeptide library.
7. A method as claimed in any one of the preceding claims wherein steps (a) and (b) are performed iteratively for more than one cycle.

8. A method as claimed in claim 7 wherein steps (a) and (b) are performed between 2 and 20 times.

9. A method as claimed in any one of the preceding claims wherein the solid support system is particulate.

10. A method as claimed in claim 9 wherein immobilised on each solid support particle is a nucleic acid molecule and said means for biospecific interaction with at least the desired polypeptide or a molecule attached thereto.

11. A method as claimed in any preceding claim wherein the immobilised means for biospecific interaction is a target molecule for the desired polypeptide.

12. A method as claimed in any one of claims 1 to 10 wherein the immobilised means for biospecific interaction is a cognate binding partner for an affinity binding partner which forms a fusion protein with the desired polypeptide.

13. A nucleic acid molecule or polypeptide when selected according to the method of any preceding claim.

14. A molecular library comprising a solid support system having immobilised thereon a plurality of nucleic acid molecules and associated with each of said nucleic acid molecules and also immobilised on said support system means for biospecific interaction with the expression product of one or more of said nucleic acid molecules.

15. A library as claimed in claim 14 wherein the solid support system is particulate.

16. A library as claimed in claim 15 wherein

immobilised on each solid support particle is a nucleic acid molecule and means for biospecific interaction with the expression product of one or more of said nucleic acid molecules.

17. A library as claimed in claim 16 wherein the immobilised means for biospecific interaction is a target molecule for the expression product of one or more of said nucleic acid molecules.